

CLAIMS

1. An electricity storage controller for vehicles comprising:
 - a rotary electric machine which constitutes a prime mover of a vehicle;
 - an electricity storage device serving as a main power source of the rotary electric machine and composed of a plurality of capacitor modules each of which contains plural capacitor cells;
 - means for calculating assigned voltages of each capacitor modules;
 - means for calculating an average value of the assigned voltages;
 - and
 - means for equalizing the assigned voltages of each modules based on the average value.
2. An electricity storage controller for vehicles according to claim 1, wherein the means for equalizing the assigned voltages of modules based on the average value comprising:
 - bypass circuits, which are normally open, are connected in parallel, respectively, with each capacitor cells that are connected in series;
 - means for calculating an average value of assigned voltages of the capacitor cells from the average value of the assigned voltages of the capacitor modules;
 - means for setting a bypass reference voltage based on the average value of the assigned voltages of the capacitor cells; and
 - means for closing the bypass circuit of the capacitor cell, in which the assigned voltage of the capacitor cell exceed the bypass reference voltage, of the capacitor module in which the assigned voltage of the

capacitor module exceed the average value of the capacitor module.

3. An electricity storage controller for vehicles according to claim 1 or claim 2, further comprising means for determining whether or not vehicle conditions allow closing of the bypass circuit, the bypass circuit can be closed only when the determination means makes affirmative determination.

4. An electricity storage controller for vehicles according to claim 3, wherein the determination means does not allow the affirmative determination when a temperature of the capacitor module exceeds a normal range.

5. An electricity storage controller for vehicles according to claim 3, wherein the determination means does not allow the affirmative determination when an inverter current of an inverter which is a relay between the rotary electric machine and the electricity storage device is greater than a stipulated value.

6. An electricity storage controller for vehicles according to claim 2, wherein the bypass circuit comprises a resistance and a bypass transistor.

7. An electricity storage controller for vehicles according to claim 2, wherein the means for calculating assigned voltages of the capacitor modules comprises means for detecting assigned voltages of each capacitor cells which are connected in series and means for summing up detected values of the assigned voltages of the capacitor cells as a total voltage of each capacitor module.

8. An electricity storage controller for vehicles according to claim

7, wherein the means for calculating an average value of assigned voltages of the capacitor modules comprises means for summing up a total voltage of each capacitor modules and means for dividing its total value by number of capacitor modules.

9. An electricity storage controller for vehicles according to claim 2, wherein the means for calculating an average value of assigned voltages of the capacitor cells from the average value of the assigned voltages of the capacitor modules is means for dividing an average value of assigned voltages of the capacitor modules by number of series of the capacitor cells of a set of the capacitor modules.